

REMARKS

Status of the Claims

Claims 1, 9, 12-15, 17, 20 and 21 – Currently Amended

Claim 2-8, 10, 11, 16, and 18, 19 and 22 – Original

Claims 8, 18 and 21 – Canceled

Allowable Subject Matter

The Examiner has indicated that claims 15, 16 and 19 are objected to as being dependent upon a rejected base claim but would be allowable if rewritten in independent form including all of the limitations of the base claim and intervening claims. Applicant appreciates the Examiner's indication of allowable subject matter.

Comments under 35 U.S.C. § 103

The Examiner has rejected claims 1, 3-5, 9-10, and 12-13 under 35 U.S.C. § 103(a) as being unpatentable over Hiroi (official translation of JP 10234016) in view of Agraharam (U.S. Pat. 6,412,011) and further in view of Fu (U.S. Pat. 6,320,621). The Examiner has rejected claims 6, 7, and 11 under 35 U.S.C. § 103(a) as being unpatentable over Hiroi in view of Agraharam, in view of Fu, and further in view of Kim (U.S. Pat. 5,457,542). The Examiner has rejected claims 2, 8, and 14 under 35 U.S.C. § 103(a) as being unpatentable over Hiroi in view of Agraharam, in view of Fu, and further in view of Kirkland (U.S. Pat. 5,677,739). The Examiner has rejected claims 17 and 21 under 35 U.S.C. § 103(a) as being unpatentable over Hiroi in view of Agraharam, in view of Fu, and further in view of Bourbonnais (U.S. Pat. 6,338,033).

The Examiner has rejected claims 18, 20, and 22 under 35 U.S.C. § 103(a) as unpatentable over Hiroi in view of Agraharam, in view of Fu, and further in view of Bourbonnais and Kirkland.

Applicant has amended independent claims 1, 9, and 17 to indicate clearly that the present invention provides translated closed captions in a program signal during broadcast of the program signal by pre-processing the closed caption data to extract closed caption codes and closed caption text from the program signal, pre-editing the closed caption text for machine translation, translating the closed caption text using machine translation software, inserting the closed caption codes and translated closed caption text in the program signal, and transmitting the program signal with the translated closed caption codes and closed caption text to a destination program for broadcast to all viewers. All viewers receive the program signal with the translated closed caption data. Viewers who elect to view the closed caption data on their television sets see the translated closed caption text. In view of Applicant's amended claims, Applicant respectfully traverses the rejections.

Applicant respectfully submits that the Hiroi, Agraharam, and Fu references relied upon by the Examiner to reject independent claims 1, 9, and 17 cannot support the rejection of Applicant's amended independent claims, and therefore, cannot alone or in combination with the Kim, Kirkland, and Bourbonnais references support the rejection of dependent claims 2-7, 10-16, and 19, 20, and 22 which depend from claims 1, 9, and 17. It is respectfully submitted the combination of the Hiroi, Agraharam, and Fu references has deficiencies not addressed by the Examiner and therefore, the references cannot support the present rejections.

It is the Examiner's position Hiroi teaches a video-signal input device and data-acquisition apparatus in which the video-signal input device passes the signal to the data acquisition apparatus where the signal is digitized then stored in memory. The same module then extracts the digital data stored in line 21 to create a character string (referred to by Hiroi as 'subtitles'). Hiroi then teaches the use of a video display as well as a recording and playback apparatus for the delivery of the translations to a display device. Hiroi therefore teaches an individual user capturing a program and then using a local device to decode, store, translate, and display translations. Agraharam teaches the use of a translation server to perform translations and transmission. The combination of Hiroi and Agraharam therefore, is a program signal captured by an individual user that is then translated remotely and broadcast to users that selectively decide to receive enhanced content.

Applicant respectfully submits that even if the devices of Hiroi and Agraharam could be combined, the combination lacks an important feature of the present invention – translation of program signals during a program broadcast. Hiroi teaches on-demand translation of programs that have already been transmitted to a user. The translation is initiated and applied to a program after it has been received by the user's device. Therefore, only those programs that have been broadcast to and selected by an individual user are translated. Agraharam teaches on-demand receipt of enhanced or translated content. Under Agraharam, the translated program is distributed via multicast through a data router. The notion of delivering a multicast signal implies that there are specific users who will be receiving the signal, but the signal is not publicly distributed over broadcast. Even if the devices of Hiroi and Agraharam could be

combined, only those programs already received by the device of Hiroi and selected for translation would be translated by the server of Agraharam and then distributed to other users that have elected to receive enhanced content as part of the multicast of a previously broadcast program. The combination of Hiroi and Agraharam results in a process is that is non-continuous and non-real-time and that does not relate to translated program signals that are broadcast to all viewers. The combination of Hiroi and Agraharam simply does not teach or even suggest performing translation of closed caption data during broadcast of a program that is available to all viewers.

Applicant further respectfully submits that Hiroi and Agraharam teachings related to “on-demand” translation teach away from the present invention. Applicant’s claims have been amended to indicate that the present invention translates closed caption data during a program broadcast so that translated closed captioning data may be transmitted to all viewers. Hiroi teaches only selective translation of previously broadcast programs. Agraharam also teaches selective translation of content by stating in Col. 7, lines 1-9 that a database is maintained to determine which subscribers have requested transcribed or translated content, which information streams should be converted, and how users would like to receive the converted content. Neither reference teaches or even suggests that all programs or all content should be translated for broadcast to viewers. Furthermore, Agraharam teaches transmission of data in a communications network in which traffic is an important concern. (Col. 1, lines 36 discourages approaches that “result in an unacceptable amount of traffic in the network.” Selective transmission of enhanced content to only those users that request it is important in Agraharam to minimize the amount of network traffic and is necessary to

avoid an approach that results in an “unacceptable amount of traffic.” Agraharam maintains a database for the express purpose of determining who should receive enhanced content and ensuring that enhanced content is not distributed to users that do not request it.

Applicant respectfully submits that because neither Hiroi nor Agraharam teach or even suggest translating closed caption data during a program broadcast so that translated closed captioning data may be transmitted to all viewers, it would not be obvious to combine the teachings of Fu with the teachings of Hiroi and Agraharam. Fu is directed to a viewer’s selection of closed caption services on a broadcast receiving device. In this regard, it has absolutely no relevance to how or when translation of closed caption data occurs or what closed caption data is translated.

Fu teaches that viewers watching a television broadcast on the disclosed device may select among closed caption services to change the viewing experience. Any program that has closed caption data of the types supported may be viewed according to a selected service. The viewer does not decide which programs have closed caption data (as taught by Hiroi) or whether to receive programs with closed caption data (as taught by Agraharam). In Fu, the viewer decides only whether to view the closed caption data which is present in the broadcast signal. Applicant respectfully submits that Fu adds nothing to the teachings of Hiroi or Agraharam. Fu simply allows a viewer to view closed caption data if the closed caption data is present. The ability to select a particular closed caption service is meaningless if the program signals that are broadcast do not have closed caption data related to the selected service. Even if Hiroi and Agraharam could be combined and modified as suggested by the Examiner, the

result is the presence of closed caption data in only selected content according to user preferences and the ability under Fu to view only the content that has been selectively translated. The resulting combination is not translated closed caption data added to a program signal during a broadcast of the program signals as in the present invention.

Applicant further respectfully submits that none of the cited references teach additional claimed limitations of the present invention related to pre-processing of caption data to extract closed caption text and pre-editing of the closed caption text so that the text can be translated using machine translation software. These aspects are important because without pre-processing and pre-editing of the input stream, the machine translation software would produce unintelligible output. Embedded captioning codes that occur in all captions interfere with the operation of machine translation software. Removal of the codes during pre-processing and additional grammatical pre-editing is required to transform the caption data into translatable text. Captions typically contain numerous phonetic errors as well as punctuation characteristics that are not recognized by machine translation software. Applicant's amended claims recite these features and therefore, distinguish the present invention from the cited references.

Applicant further respectfully submits there are technical difficulties related to the combination of Hiroi and Agraharam that would need to be solved to create the invention envisioned by the examiner. Even if it would be desirable for individuals who have captured programs according to the device of Hiroi to share them with other users using the translation server and communication network of Agraharam, it is unclear from the references how such a system would be created. The references, alone or in combination, simply do not teach or even suggest how caption data from the device of

Hiroi could be transmitted to the server of Agraharam for translation and broadcast. Hiroi decodes and stores caption data "in main memory" at the individual user's site – leaving the data effectively stranded in the user's device. Neither Hiroi nor Agraharam specify a means for transferring the caption data from the user's local device to a translation server. As a result, a necessary and important part of the process is missing. Applicant respectfully submits therefore, that the Hiroi and Agraharam references cannot be combined to support the present rejections.

Applicant respectfully submits that amended claims 1, 9, and 17 distinguish the present invention over the combination of Hiroi, Agraharam, and Fu by indicating that during a program broadcast a program signal is modified by pre-processing the closed caption data to extract closed caption codes and closed caption text, pre-editing the closed caption text for machine translation, translating the closed caption text using machine translation software, inserting the closed caption codes and translated closed caption text in the program signal, and transmitting the program signal with the translated closed caption codes and closed caption text to a destination program for broadcast to all viewers. Applicant further respectfully submits that because the Hiroi, Agraharam, and Fu references cannot support the rejections of claims 1, 9, and 17, they cannot be combined with the Kim, Kirkland, or Bourbonnais references to support the rejections of the dependent claims.

Conclusion

The present invention provides significant benefits to broadcasters as well as programming viewers. The translations are provided automatically and continuously on program signals at the broadcast source. The ability for broadcasters to offer translated

programming is increased significantly. In addition, the programming options available to viewers that are unlikely to view a program in its source language are increased. Applicant respectfully submits that the present application is now in condition for allowance and such action is earnestly requested.

Respectfully submitted,

Date: January 12, 2006 By: Carol G. Stovsky
Carol G. Stovsky, Reg. No. 42,171
Attorney for Applicant
Standley Law Group LLP
495 Metro Place South, Suite 210
Dublin, Ohio 43017-5319
Tel.: 614-792-5555
Fax: 614-792-5536